

October 14, 2011



U.S. Department  
of Transportation

East Building, PHH-30  
1200 New Jersey Avenue S.E.  
Washington, D.C. 20590

**Pipeline and Hazardous  
Materials Safety Administration**

DOT-SP 11859  
(TENTH REVISION)

<b>EXPIRATION DATE: August 31, 2014</b>
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(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: Carleton Technologies, Inc.  
Orchard Park, NY
2. PURPOSE AND LIMITATIONS:
  - a. This special permit authorizes the manufacture, marking, sale and use of a missile gas storage system consisting of a non-DOT specification cylinder equipped with a pyrotechnic pressure relief device for the transportation in commerce of nitrogen. This special permit provides no relief from the Hazardous Materials Regulations (HMR) other than as specifically stated herein. The most recent revision supersedes all previous revisions.
  - b. The safety analyses performed in development of this special permit only considered the hazards and risks associated with transportation in commerce. The safety analyses did not consider the hazards and risks associated with use as a component of a transport vehicle or other device, or other uses not associated with transportation in commerce.
3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171-180.
4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR §§ 173.302a(a) in that the prescribed cylinder is not authorized, 178.65 and 173.301(f) in that the pyrotechnic safety relief device is not authorized, except as specified herein.
5. BASIS: This special permit is based on the Pipeline and Hazardous Materials Safety Administration's (PHMSA) review under § 107.121 initiated on May 1, 2010.

6. HAZARDOUS MATERIALS (49 CFR § 172.101):

Hazardous Materials Description			
Proper Shipping Name	Hazard Class/ Division	Identification Number	Packing Group
Nitrogen, compressed	2.2	UN1066	N/A

A missile gas storage system or component which contains a quantity of pyrotechnic materials must be classed and approved as provided for in § 173.56. If the pyrotechnic material augments the volume of the gas in the cylinder, or in any way enhances the performance of the compressed gas, the device must be tested in the same configuration as when shipped.

7. SAFETY CONTROL MEASURES:

a. PACKAGING - Prescribed packaging is described as a missile gas storage system. The packaging consists of a non-DOT specification non-refillable welded steel cylinder equipped with a Division 1.4S pyrotechnic pressure relief device. The device begins releasing pressure at a maximum temperature of 365°F, corresponding to a maximum pressure of 16,000 psig. The packaging must comply with Carleton Technologies, Inc. drawing numbers B41113-5, B41113-7, or B41113-9 on file with the Office of Hazardous Materials Special Permits and Approvals (OHMSPA) and with DOT Specification 39 (§§ 178.35 and 178.65) except as follows:

§ 178.35(e) *Safety devices.*

Applies except that pyrotechnic pressure relief device is authorized.

§ 178.65(a) *Type, size, service pressure, and test pressure.*

(1) Maximum size is 14 cubic inches, and maximum service pressure is 8,750 psig.

§ 178.65(b) *Material.* The cylinder must be constructed of PH13-8Mo or 17-4PH stainless steel.

§ 178.65(f) *Pressure tests.*

(1) \* \* \*

(2) One cylinder from the beginning of each lot, and one taken from each 250 or less successively produced within the lot thereafter, must be hydrostatically tested to at least 2.0 times the test pressure without failure. All cylinders tested under this paragraph must be scrapped. The entire lot must be rejected (see paragraph (h) of this section) if:

(i) \* \* \*

(ii) \* \* \*

(iii) Not Applicable

(iv) \* \* \*

(3) A "lot" is defined as the quantity of cylinders fabricated from the same material, manufactured by the same process and heat treated in the same equipment under the same conditions of time, temperature, and atmosphere and may not exceed a quantity of 250.

§ 178.65(g) *Flattening test.*

One sample ring must accompany each lot. The sample ring must be from the same material lot as the cylinders. The sample ring must be subjected to a flattening test as follows:

(1) The flattening test must be made on the sample ring.

(2) \* \* \*

(3) Flattening between flat plates is authorized.

(4) Test rings must not crack when flattened so that their outer surfaces are not more than 15 times wall thickness apart.

§ 178.65(i) *Markings.*

(1) \* \* \*

(2) Required markings are as follows:

(i) Each cylinder must be marked "DOT-SP 11859" in lieu of "DOT-39".

b. TESTING - All welds, except the fill tube resistance welds, must be 100% radiographically inspected and liquid penetrant inspected. Fill tube resistance welds must be tested as specified on Carleton drawing number B41113-7.

c. OPERATIONAL CONTROLS Cylinders must be shipped in strong outside packaging in accordance with § 173.301(a)(9).

8. SPECIAL PROVISIONS:

a. In accordance with the provisions of Paragraph (b) of § 173.22a, persons may use the packaging authorized by this special permit for the transportation of the hazardous materials specified in paragraph 6, only in conformance with the terms of this special permit.

b. A person who is not a holder of this special permit, but receives a package covered by this special permit, may reoffer it for transportation provided no modification or change is made to the package and it is offered for transportation in conformance with this special permit and the HMR.

c. A current copy of this special permit must be maintained at each facility where the package is offered or reoffered for transportation.

d. Each packaging manufactured under the authority of this special permit must be marked with a registration symbol designated by the Office of Hazardous Materials Special Permits and Approvals for a specific manufacturing facility.

e. A current copy of this special permit must be maintained at each facility where the package is manufactured under this special permit. It must be made available to a DOT representative upon request.

9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle, rail freight, and cargo aircraft only.

10. MODAL REQUIREMENTS: A current copy of this special permit must be carried aboard each aircraft used to transport packages covered by this special permit. The shipper shall furnish a current copy of this special permit to the air carrier before or at the time the shipment is tendered.
11. COMPLIANCE: Failure by a person to comply with any of the following may result in suspension or revocation of this special permit and penalties prescribed by the Federal hazardous materials transportation law, 49 U.S.C. 5101 et seq:
  - o All terms and conditions prescribed in this special permit and the Hazardous Materials Regulations, Parts 171-180.
  - o Persons operating under the terms of this special permit must comply with the security plan requirement in Subpart I of Part 172 of the HMR, when applicable.
  - o Registration required by § 107.601 et seq., when applicable.

Each "Hazmat employee", as defined in § 171.8, who performs a function subject to this special permit must receive training on the requirements and conditions of this special permit in addition to the training required by §§ 172.700 through 172.704.

No person may use or apply this special permit, including display of its number, when the special permit has expired or is otherwise no longer in effect.

Under Title VII of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)- "The Hazardous Materials Safety and Security Reauthorization Act of 2005" (Pub. L. 109-59), 119 Stat. 1144 (August 10, 2005), amended the Federal hazardous materials transportation law by changing the term "exemption" to "special permit" and authorizes a special permit to be granted up to two years for new special permits and up to four years for renewals.

12. REPORTING REQUIREMENTS: Shipments or operations conducted under this special permit are subject to the Hazardous Materials Incident Reporting requirements specified in 49 CFR §§ 171.15 - Immediate notice of certain hazardous materials incidents, and 171.16 - Detailed hazardous materials incident reports. In addition, the grantee(s) of this special permit must notify the Associate Administrator for Hazardous Materials Safety, in writing, of any incident involving a package, shipment or operation conducted under terms of this special permit.

Issued in Washington, D.C.:



for Dr. Magdy El-Sibaie  
Associate Administrator for Hazardous Materials Safety

Address all inquiries to: Associate Administrator for Hazardous Materials Safety, Pipeline and Hazardous Materials Safety Administration, Department of Transportation, Washington, D.C. 20590. Attention: PHH-31.

Copies of this special permit may be obtained by accessing the Hazardous Materials Safety Homepage at [http://hazmat.dot.gov/sp\\_app/special\\_permits/spec\\_perm\\_index.htm](http://hazmat.dot.gov/sp_app/special_permits/spec_perm_index.htm) Photo reproductions and legible reductions of this special permit are permitted. Any alteration of this special permit is prohibited.

PO: CWFreeman/mn